THE CIRCLE (Q 3, PAPER 2)

2006

3	(a)	The circle <i>C</i> has equation $x^2 + y^2 = 25$. The line <i>L</i> is a tangent to <i>C</i> at the point (-3, 4).
		(i) Verify that the point $(-3, 4)$ is on C.
		(ii) Find the slope of L.
		(iii) Find the equation of L.
		Find the coordinates of the point at which <i>T</i> touches <i>C</i> .
	(b)	The vertices of a right-angled triangle are $p(1, 1)$, $q(5, 1)$ and $r(1, 4)$.
		The circle K passes through the points p , q and r .
		(i) On a coordinate diagram, draw the triangle <i>pqr</i> .
		Mark the point c , the centre of K , and draw K .
		(ii) Find the equation of <i>K</i> .

(iii) Find the equation of the image of *K* under the translation $(5, 1) \rightarrow (1, 4)$.

